

IN THE CLAIMS

Please amend the claims as indicated below:

1 1. (Currently Amended) A computer system, comprising:
2 a first processor;
3 a second processor; and
4 an instruction memory coupled to the first and second processors having a software direct
5 memory access (DMA) engine stored therein, the software DMA engine, capable of
6 being when executed by one a processor of the first and second processors, the DMA
7 engine being capable of transferring data directly between one or more all resources
8 in the computer system.

1 2. (Currently Amended) The system of Claim 1, wherein ~~the direct memory access engine~~
2 ~~further comprises one or more instructions being executed by one of the first and second~~
3 ~~processors that transfer data between the resources transferring data includes one or more of data~~
4 ~~processing, data filtering, data compacting and data reformatting.~~

1 3. (Original) The system of Claim 2, wherein the resources comprise one or more of static
2 random access memory, dynamic random access memory and one or more hardware buffers that
3 are capable of interfacing with one or more peripheral devices.

1 4. (Currently Amended) The system of Claim 3, wherein the one or more hardware
2 buffers, in combination with the software DMA engine, permit the one or more peripherals to
3 access the memory directly.

1 5. (Currently Amended) The system of Claim 3, wherein the software DMA engine
2 comprises one or more instructions, the one or more instructions further comprise including a
3 store multiple data instruction and a load multiple data instruction wherein, when executed by
4 the processor:
5 the load multiple data instruction loads data from multiple locations in one of the

6 hardware buffers into multiple locations in the internal registers in the processor
7 ~~executing the DMA engine instructions and wherein, and~~
8 the store multiple data instruction transfers the data from multiple locations in the internal
9 registers into multiple locations in a memory.

1 6. ~~(Currently Amended) A computer implemented direct memory access (DMA)~~
2 ~~apparatus implemented in software on a computer system, that operates in a~~ the computer system
3 having two or more processors, the DMA apparatus comprising:

4 a first instruction memory location in the computer system with a load multiple data
5 instruction loaded therein; and
6 a second instruction memory location in the computer system with a store multiple data
7 instruction loaded therein, wherein

8 ~~a load the load~~ multiple data instruction, when capable of being executed by a
9 ~~processor in the computer system for system, is capable of~~ loading data from
10 multiple locations in a resource into multiple locations in an internal register
11 in the processor; and

12 ~~a store the store~~ multiple data instruction, when capable of being executed by the
13 ~~processor in the computer system for system, is capable of~~ storing data from
14 multiple locations in the internal ~~registers~~ register in the processor into
15 multiple locations in a memory.

1 7. (Original) The apparatus of Claim 6, wherein the resources comprise one or more of
2 static random access memory, dynamic random access memory and one or more hardware
3 buffers that are capable of interfacing with one or more peripheral devices.

1 8. ~~(Currently Amended)~~ The apparatus of Claim 7, wherein the one or more hardware
2 buffers, in combination with the ~~DMA engine apparatus~~, permit the one or more peripherals to
3 access the memory directly.

1 9. (Currently Amended) The apparatus of Claim 8 Claim 6, wherein the instructions
2 further comprise a store multiple data instruction and a and the load multiple data instruction,
3 when executed by the processor, each further include one or more of data processing, data
4 filtering, data compacting and data reformatting wherein the load multiple data instruction loads
5 data from multiple locations in one of the hardware buffers into multiple locations in the internal
6 registers in the processor executing the DMA engine instructions and wherein the store multiple
7 data instruction transfers the data from multiple locations in the internal registers into multiple
8 locations in a memory.

1 10. (Canceled).
